

SABIX® A 170 TWÖ Flexible "thin-wall" single conductor - space and weight saving



Marking for SABIX® A 170 TWÖ 68700105:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 170 TWÖ
EN 50306-2 300 V 1 x 0.5 mm² K CE

SABIX® A 170 TWÖ is a halogen-free single conductor for use in control cabinets, appliances and communication technologies, household appliances, generators and transformers, machine construction, railway technologies and other specific technologies. This cable is particularly suitable for use where human life and valuable property are exposed to an extremely high risk of fire.

Construction:

Conductor:	tinned copper strands, fine wires acc. to EN 50306-2
Insulation:	special SABIX®
Color code:	white

Outstanding features:

- halogen-free
- flame retardant
- low smoke emission
- smallest outer-diameter
- space-saving installation
- light
- abrasion resistant surface
- standardized safety
- accomplishes the fire protection levels 1 - 4 acc. to DIN 5510

item no.	AWG	min. outer-ø inch	nominal outer-ø mm	max. outer-ø inch	nominal outer-ø mm	cable weight ≈ lbs/mft	ohmic-resistance at 20°C max. Ω/km
▶ 68700105	20/1c	0.045	1.15	0.057	1.45	4	40.10
▶ 68700107	19/1c	0.053	1.35	0.065	1.65	5	26.70
▶ 68700110	18/1c	0.057	1.45	0.071	1.80	7	20.00
▶ 68700115	16/1c	0.077	1.95	0.091	2.30	10	13.70
▶ 68700125	14/1c	0.098	2.50	0.112	2.85	16	8.21



Especially for use in rail vehicles.

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Technical data:

Nominal voltage U₀:	300 V	
Testing voltage:	4 kV	
Temperature range:	+105°C, with short circuit of 5 sec., +160°C	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	
Test EN 50306-2	Requirements	SAB results
Voltage test	2000 Va.c., 5 min. 4800 Vd.c., 5 min.	passed ✓
Dielectric strength	4000 V a.c.	passed ✓
D.C.-voltage strength	300 Vd.c., 10 d / 85°C current increase ≤ 10%	passed ✓
Insulation resistance at 20°C	0.5 mm² - 600 MΩ*km	passed ✓
Insulation resistance at 90°C	0.5 mm² - 0.3 MΩ*km	passed ✓
Stripping of insulation	easy	passed ✓
Oil resistance IRM 902 at 100°C / 24h	no tears voltage test at 1.5 kV a.c.	passed ✓
Fuel resistance IRM 903 at 70°C / 168h	no tears voltage test at 1.5 kV a.c.	passed ✓
Resistance against acids N-oxalic acid solution at 23°C / 168h	no tears voltage test at 1.5 kV a.c.	passed ✓
Alkaline resistance N-oxalic acid solution at 23°C / 168h	no tears voltage test at 1.5 kV a.c.	passed ✓
Hot pressure resistance at 125°C / 4h	impression depth ≤ 50%, voltage test at 1.5 kV a.c.	impression depth 0% passed ✓
Dynamic penetration test	0.5 mm² - load 70 N	passed ✓
Resistance to tear propagation	at -15°C / 3h at +23°C / 3h at +85°C / 3h voltage test at 150 V a.c.	passed ✓
Shrinking at 150°C	< 1.5 mm	passed ✓
Blocking of conductors	at 150°C / 6h no adhesion	passed ✓
Cold bend test	at -40°C	passed ✓
Abrasion resistance	0.5 mm² - load 7 N	passed ✓
Elasticity		passed ✓
Ozone resistance	method B no tears voltage test at 1.5 kV a.c.	passed ✓
Stress cracking resistance	168 h at 180°C no tears voltage test at 1.5 kV a.c.	passed ✓
Flame propagation at conductor	flame effect 60 sec. fire trace: < 425 mm	passed fire trace: 70 mm no afterflame period ✓
Flame propagation banded conductors	flame effect 20 min fire trace: < 1.5 m	passed fire trace: 0,8 m no afterflame period ✓
Acidity of corrosive gases	pH min. 4,3 conductivity max. 10.0 µS/mm	passed ✓
Development of corrosive gases	hydrogen chloride max. 0.5%, fluorine max. 0.1%	passed ✓
Smoke density	category 4 ≥ 70%	light transmission ≥ 80% ✓